West Virginia Department of Environmental Protection
Division of Air Quality

Title V Operating Permit Revision

Earl Ray Tomblin
Governor

Randy C. Huffman
Cabinet Secretary

For Minor Modification Permitting Action Under 45CSR30 and Title V of the Clean Air Act

Permit Action Number: MM01 **SIC:** 3312, 2813
Name of Permittee: ArcelorMittal Weirton LLC
County: Hancock County
Facility Address: 100 Pennsylvania Avenue, Weirton, WV 26062

Description of Permit Revision: Incorporates the installation of a new HCl tank authorized by NSR Permit R13-0032B issued on December 5, 2014.

Initial Title V Permit Information:
Permit Number: R30-02900001-2012 (Part 2 of 3)
Effective Date: February 14, 2012
Expiration Date: January 31, 2017

Directions To Facility: From US 22 take Exit 2 to WV-2 North to Downtown Weirton. Continue on WV-2 approximately 3 miles. Approaching the 10th traffic light, at Pennsylvania Avenue, turn right into the driveway of the Mill Administration Building.

THIS PERMIT REVISION IS ISSUED IN ACCORDANCE WITH THE WEST VIRGINIA AIR POLLUTION CONTROL ACT (W.VA. CODE §§ 22-5-1 ET SEQ.) AND 45CSR30 - "REQUIREMENTS FOR OPERATING PERMITS." THE PERMITTEE IDENTIFIED AT THE FACILITY ABOVE IS AUTHORIZED TO OPERATE THE STATIONARY SOURCES OF AIR POLLUTANTS IDENTIFIED HEREIN IN ACCORDANCE WITH ALL TERMS AND CONDITIONS OF THIS PERMIT.

William F. Durham
Director

April 28, 2015
Date Issued

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1.0 Emission Units and Active R13, R14, and R19 Permits

1.1. Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
033/1	S100	Reheat Furnace 1	1991	350 tons/hr 356 MMBtu/hr	None
034/1	S101	Reheat Furnace 2	1991	350 tons/hr 322 MMBtu/hr	None
037/1	F104	Hot Strip Mill	1929	500 tons/hr	None
039/3	S106 S124	No. 5 Pickle Line	1975	310 tons/hr	C106A C106B C124
039/4	F106	No. 5 Pickle Line Oil Coating	1975	310 tons/hr	None
HCL-R	F125	Strip Steel HCl Acid Storage Tanks	N/A	25,000 gallons	Scrubber
040/1	S107	No. 7 Tandem Mill (5 Stand)	1955	100 tons/hr	Fume exhaust & cleaning system
042/1	S109A S109B S109C S109D S109E	No. 9 Tandem Mill	1975	150 tons/hr	Fume exhaust & cleaning system
044/1	F112	No. 8 Skin Mill	1956	100 tons/hr	None
		ACID PLANT			
047/1 047/2	S115	HCl Regeneration Unit 2 - Combustion HCl Regeneration Unit 2 - Process	1974	76.0 MMBtu/hr 6.56 tons/hr	Scrubber C115
048/1 048/2	S116	HCl Regeneration Unit 3 - Combustion HCl Regeneration Unit 3 - Process	1974	76.0 MMBtu/hr 6.56 tons/hr	Scrubber C116
049/1 049/2	S117	HCl Regeneration Unit 4 - Combustion HCl Regeneration Unit 4 - Process	1974	76.0 MMBtu/hr 6.56 tons/hr	Scrubber C117
HCL-A through H	Stack	HCL Storage Tanks (8) Commercial Acid [A, B, C, G, H] Waste Pickle Liquor (WPL) [D, E, F]	1996	30,000 gallons each	Scrubber
HCL-T	1E	HCl Storage Tank	2014	8,700 gallons	Fume Scrubber 1C
		LIME STORAGE SILOS			
095	C095	Veolia	---	30 tons	Bin Vent Filter
096	C096	B-Outfall	---	30 tons	Bin Vent Filter

1.2. Active R13, R14, and R19 Permits

The underlying authority for any conditions from R13, R14, and/or R19 permits contained in this operating permit is cited using the original permit number (e.g. R13-1234). The current applicable version of such permit(s) is listed below.

Permit Number	Date of Issuance
R13-0032~~A~~ B	~~November 8, 2006~~ December 5, 2014
R13-1137	October 26, 1990
R13-1310	February 8, 1991

d. The permittee shall submit a report of the results of the stack test within 60 days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:

1. The permit or rule evaluated, with the citation number and language.

2. The result of the test for each permit or rule condition.

3. A statement of compliance or non-compliance with each permit or rule condition.

[WV Code § 22-5-4(a)(14-15), 45CSR§2-8.1., and 45CSR13]

3.4. Recordkeeping Requirements

3.4.1. **Monitoring information.** The permittee shall keep records of monitoring information that include the following:

a. The date, place as defined in this permit and time of sampling or measurements;

b. The date(s) analyses were performed;

c. The company or entity that performed the analyses;

d. The analytical techniques or methods used;

e. The results of the analyses; and

f. The operating conditions existing at the time of sampling or measurement.

[45CSR§30-5.1.c.2.A. and 45CSR13-R13-0032, Conditions 4.4.1. and 5.4.1.]

3.4.2. **Retention of records.** The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of monitoring sample, measurement, report, application, or record creation date. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Where appropriate, records may be maintained in computerized form in lieu of the above records.

[45CSR§30-5.1.c.2.B.]

3.4.3. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.

[45CSR§30-5.1.c. State-Enforceable only.]

3.5. Reporting Requirements

3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that,

8.0. Pickling Lines, and HCl Regeneration Units and HCL-T Requirements

8.1. Limitations and Standards

8.1.1. Potential Hazardous Material Emissions--Persons responsible for manufacturing process source operations from which hazardous particulate matter material may be emitted such as, but not limited to, lead, arsenic, beryllium and other such materials shall give the utmost care and consideration to the potential harmful effects of the emissions resulting from such activities. Evaluations of these facilities as to adequacy, efficiency and emission potential will be made on an individual basis by the Director working in conjunction with other appropriate governmental agencies.
[45CSR§7-4.13.]

8.1.2. a. **Pickling lines.** No owner or operator of an existing affected continuous or batch pickling line at a steel pickling facility shall cause or allow to be discharged into the atmosphere from the affected pickling line any gases that contain HCl in a concentration in excess of 18 parts per million by volume (ppmv) or HCl at a mass emission rate that corresponds to a collection efficiency of less than 97 percent. Compliance with this limit shall demonstrate compliance with the less stringent limitation of 45CSR§7-4.2.

b. **Hydrochloric acid regeneration plants.** 1. No owner or operator of an existing affected plant shall cause or allow to be discharged into the atmosphere from the affected plant any gases that contain HCl in a concentration greater than 25 ppmv.

2. No owner or operator of an existing affected plant shall cause or allow to be discharged into the atmosphere from the affected plant any gases that contain chlorine (Cl_2) in a concentration in excess of either 6 ppmv or an alternative source-specific maximum concentration. The source-specific maximum concentration standard shall be established according to Section 8.2.1.c.2. of this permit.

[40 C.F.R. § 63.1157, 45CSR34 and 45CSR§7-4.2]

8.1.3. a. **Hydrochloric acid regeneration plant.** The permittee must operate the affected plant at all times while in production mode in a manner that minimizes the proportion of excess air fed to the process and maximizes the process offgas temperature consistent with producing usable regenerated acid or iron oxide.

b. **Hydrochloric acid storage vessels.** The permittee shall provide and operate, except during loading and unloading of acid, a closed-vent system for each vessel. Loading and unloading shall be conducted either through enclosed lines or each point where the acid is exposed to the atmosphere shall be equipped with a local fume capture system, ventilated through an air pollution control device.

[40 C.F.R. § 63.1159 and 45CSR34]

8.1.4. a. The permittee shall comply with the operation and maintenance requirements prescribed under 40 C.F.R. §63.6(e).

b. The permittee shall prepare an operation and maintenance plan for each emission control device to be implemented no later than the compliance date. The plan is hereby incorporated by reference into the source's Title V permit. All such plans must be consistent with good maintenance practices and, for a scrubber emission control device, must at a minimum:

i. Require monitoring and recording the pressure drop across the scrubber once per shift while the scrubber is operating in order to identify changes that may indicate a need for maintenance;

particulate matter emitted from any process source operation which is less than forty (40) percent opacity for any period or periods aggregating no more than five (5) minutes in any sixty (60) minute period.
[45CSR§§7-3.1. and 3.2.]

8.1.6. The permittee shall install and maintain pressure relief valves on each reactor for each HCL regeneration unit to open at a pressure of no less than 15 inches water column.
[45CSR13 - R13-0032, Condition 4.1.1. and 45CSR§30-5.1.c.]

8.1.7. The permittee shall install and maintain a distributed control system (DCS) or equivalent control system that continuously monitors the pressure at the following points on each HCL regeneration unit:

1. "P-1" - Main Air Blower Discharge
2. "P-2" - Reactor Exit
3. "P-4" - Cyclonic Separator Exit
4. "P-5" - Pre-evaporator Exit
5. "P-6" - Absorber Exit
6. "P-7" - Packed Scrubber Exit

Such system shall have alarm set-points for each of the above locations that notifyies the operator that the pressure at that respective point is out of acceptable operating range. Also, this system or another control system shall be programmed and operated in such a manner that it automatically shuts down the respective regeneration unit before the reactor pressures exceeds the pre-set pressure of the pressure relief valve.
[45CSR13 - R13-0032, Condition 4.1.2. and 45CSR§30-5.1.c.]

8.1.8. The permittee shall install, operate and maintain a wet scrubber on the absorber exit gas stream at each HCL regeneration unit.
[45CSR13 - R13-0032, Condition 4.1.3. and 45CSR§30-5.1.c.]

8.1.9. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all acid plant scrubbers and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR§13-5.11. and 45CSR13 - R13-0032, Conditions 4.1.4. and 5.1.3.]

8.1.10. The HCl Tank (HCl-T) shall be operated and maintained in accordance with the following operating and emission limitations:

a. The concentration of HCl (mineral acid) released into the atmosphere from the corresponding emission point of the vessel shall not exceed 210 milligrams per dry cubic meter at standard conditions.
[45 CSR §7-4.2 and Table 45-7B to 45 CSR 7]

b. The HCl Tank shall be equipped with a conservation vent that the positive pressure port is vented/routed to the fume scrubber at all times while the tank is in service. During the HCl filling operations, the fume scrubber 1C (recirculation pump) shall be operated during entire filling operation.

c. The fume scrubber 1C and associated closed-vent system shall be maintained in accordance with the following:

i. Shall maintain the recirculation pump in accordance with the pump manufacturer's maintenance recommendations.

ii. Shall clean the scrubber internals and droplet eliminator at intervals sufficient to prevent buildups of solids or fouling.

iii. Inspection of the scrubber shall be conducted on intervals of at least once every 6 months.

iv. Such inspections shall at the minimum include the following:

1. Cleaning and replacement of any plugged spray nozzles or other liquid delivery devices;

2. Repair or replacement of missing, misaligned, or damaged baffles trays, or other internal components; and

3. Repair or replacement of droplet eliminator elements as needed.

[45CSR13 - R13-0032, Condition 5.1.1.]

8.1.11. Due to unavoidable malfunction of equipment, emissions exceeding those set forth in this permit may be permitted by the Director for periods not to exceed ten (10) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the malfunction. In cases of major equipment failure, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director. Compliance with this streamlined requirement shall be considered compliance with 45CSR§7-9.1.

[45CSR13 - R13-0032, Condition 5.1.2.]

8.2. Testing requirements

8.2.1. a. **Demonstration of compliance.** The permittee shall conduct an initial performance test for each process or emission control device to determine and demonstrate compliance with the applicable emission limitation according to the requirements in 40 C.F.R §63.7 and in this section.

1. Following approval of the site-specific test plan, the permittee shall conduct a performance test for each process or control device to either measure simultaneously the mass flows of HCl at the inlet and the outlet of the control device (to determine compliance with the applicable collection efficiency standard) or measure the concentration of HCl (and Cl_2 for hydrochloric acid regeneration plants) in gases exiting the process or the emission control device (to determine compliance with the applicable emission concentration standard).

2. Compliance with the applicable concentration standard or collection efficiency standard shall be determined by the average of three consecutive runs or by the average of any three of four consecutive runs. Each run shall be conducted under conditions representative of normal process operations.

3. Compliance is achieved if either the average collection efficiency as determined by the HCl mass flows at the control device inlet and outlet is greater than or equal to the applicable collection efficiency standard, or the average measured concentration of HCl or Cl_2 exiting the process or the emission control device is less than or equal to the applicable emission concentration standard.

b. **Establishment of scrubber operating parameters.** During the performance test for each emission control device, the permittee using a wet scrubber to achieve compliance shall establish site-specific operating parameter values for the minimum scrubber makeup water flow rate and, for scrubbers that operate with recirculation, the minimum recirculation water flow rate. During the emission test, each operating parameter must be monitored continuously and recorded with sufficient frequency to establish a representative average value for that parameter, but no less frequently than once every 15 minutes. The

Administrator in accordance with 40 C.F.R. §63.8(f). Proportion of excess air shall be determined and recorded at least once every shift while the plant is operating in production mode.

3. Each monitoring device must be certified by the manufacturer to be accurate to within 5 percent and must be calibrated in accordance with the manufacturer's instructions but not less frequently than once per year.

4. Operation of the plant with the process offgas temperature lower than the value established during performance testing or with the proportion of excess air greater than the value established during performance testing is a violation of the operational standard specified in Section 8.1.3.a. of this permit.

c. The owner or operator of an affected hydrochloric acid storage vessel shall inspect each vessel semiannually to determine that the closed-vent system and either the air pollution control device or the enclosed loading and unloading line, whichever is applicable, are installed and operating when required.
[40 C.F.R. § 63.1162 and 45CSR34]

8.3.2. The permittee shall monitor the PM emissions by conducting visible emissions checks in accordance with Section 6.2.1. of this permit
[45CSR§30-5.1.c.]

8.3.3. The permittee shall continuously monitor the pressure of the specific points listed in condition 8.1.7. The permittee shall record the pressure of all locations listed in 8.1.7. of the respective unit when the reactor's pressure relief valve is opened. Such records shall be maintained in accordance with condition 3.4.2. of this permit.
[45CSR13 - R13-0032, Condition 4.2.1.]

8.4. Reporting requirements.

8.4.1. a. **Notification of performance test.** As required by 40 C.F.R. §63.9(e), the permittee shall notify the Administrator in writing of his or her intention to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin, to allow the Administrator to review and approve the site-specific test plan required under 40 C.F.R. §63.7(c) and, if requested by the Administrator, to have an observer present during the test.

b. **Notification of compliance status.** The permittee shall submit a notification of compliance status as required by 40 C.F.R. §63.9(h).
[40 C.F.R. §§63.1163(d) and (e)]

8.4.2. a. **Reporting results of performance tests.** As required by 40 C.F.R. §63.10(d)(2), the permittee shall report the results of any performance test as part of the notification of compliance status required in Section 8.4.1.b. of this permit

b. **Periodic startup, shutdown, and malfunction reports.** 40 C.F.R. §63.6(e) requires the permittee to operate and maintain each affected emission source, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions at least to the level required by the standard at all times, including during any period of startup, shutdown, or malfunction. Malfunctions must be corrected as soon as practicable after their occurrence in accordance with the startup, shutdown, and malfunction plan.

8. If the permittee has been granted a waiver from recordkeeping or reporting requirements under 40 C.F.R. §63.10(f), any information demonstrating whether a source is meeting the requirements for a waiver of recordkeeping or reporting requirements;

9. If the permittee has been granted a waiver from the initial performance test under 40 C.F.R. §63.7(h), a copy of the full request and the Administrator's approval or disapproval;

10. All documentation supporting initial notifications and notifications of compliance status required by 40 C.F.R. §63.9; and

11. Records of any applicability determination, including supporting analyses.

b. **Subpart CCC records.**

1. In addition to the general records required by Section 8.5.1.a. of this section, the permittee shall maintain records for 5 years from the date of each record of:

i. Scrubber makeup water flow rate and recirculation water flow rate if a wet scrubber is used;

ii. Calibration and manufacturer certification that monitoring devices are accurate to within 5 percent; and

iii. Each maintenance inspection and repair, replacement, or other corrective action.

2. The owner or operator of an acid regeneration plant shall also maintain records for 5 years from the date of each record of process offgas temperature and parameters that determine proportion of excess air.

3. The permittee shall keep the written operation and maintenance plan on record after it is developed to be made available for inspection, upon request, by the Administrator for the life of the affected source or until the source is no longer subject to the provisions of this subpart. In addition, if the operation and maintenance plan is revised, the owner or operator shall keep previous (i.e., superseded) versions of the plan on record to be made available for inspection by the Administrator for a period of 5 years after each revision to the plan.

c. **Recent records.** General records and subpart CCC records for the most recent 2 years of operation must be maintained on site. Records for the previous 3 years may be maintained off site.
[40 C.F.R. § 63.1165 and 45CSR34]

8.5.2. Records of the visible emission checks conducted in accordance with Section 8.3.2. of this permit shall be maintained on site for a period of no less than five (5) years and shall include all data required by 40 C.F.R. 60 Appendix A, Method 22, or 45CSR7A, whichever is appropriate. These records shall include, at a minimum, the date and time of each visible emission check, the visible emissions survey results and, if appropriate, all corrective actions taken.
[45CSR§30-5.1.c.]

8.5.3. **Record of Maintenance of Air Pollution Control Equipment.** For all HCl Regeneration plant scrubbers, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures, which shall include the inspections as listed in Condition 8.1.10.c.
[45CSR13 - R13-0032, Conditions 4.4.2. and 5.4.2.]

8.5.4. **Record of Malfunctions of Air Pollution Control Equipment.** For all HCl Regeneration plant scrubbers, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:

a. The equipment involved.

b. Steps taken to minimize emissions during the event.

c. The duration of the event.

d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

e. The cause of the malfunction.

f. Steps taken to correct the malfunction.

g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

[45CSR13 - R13-0032, Conditions 4.4.3. and 5.4.3.]

8.5.5. The permittee shall maintain the following records when the pressure relief valve for the HCl Regeneration plant reactor is replaced:

i. Name of valve manufacture;
ii. New or reconditioned;
iii. Pre-set pressure to open the valve.

[45CSR13 - R13-0032, Condition 4.4.4.]

8.5.6. The permittee shall maintain records of all changes to the alarm set-points in the set in the DCS required in Section 8.1.7. Such records shall be maintained in accordance with condition 3.4.2. of this permit.
[45CSR13 - R13-0032, Condition 4.4.5.]

8.6. Compliance Plan

8.6.1. None